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iodoacetoxy)ethyl]-N]methylamino]-7-nitrobenz-2-oxa 1,3
diazole amide (IANBDA); 6-acryloyl-2-dimethylaminonaphthalene
(acrylodan); N-(7-chlorobenz-2-oxa-1,3-diazyl-4-yl)sulfonyl
morpholine; 4-chloro-7-nitrobenz-2-oxa-1,3-diazole (NBD
chloride); didansyl-L-cystine; N,N'-dimethyl-N-(iodoacetyl)-
N'-(7-nitrobenz-2-oxa-1,3-diazol-4-yl)ethylenediamine (IANBD
amide); 7-fluorobenz-2-oxa-1,3-diazole-4-sulfonamide (ABD-F);
4-fluoro-7-nitrobenz-2-oxa-1,3-diazole (NBD fluoride); 2-(4'-
(iodoacetamido)anilino)naphthalene-6-sulfonic acid, sodium
salt (IAANS); 5-(((2-iodoacetyl)amino)ethyl)amino)naphthalene-
1-sulfonic acid (1,5-IAEDANS); 2-(4'-
maleimidylanilino)naphthalene-6-sulfonic acid (MIANS); N-(1-
pyreneethyl)iodoacetamide; N-(1-pyrene)iodoacetamide; N-(1-
pyrene)maleimide; N-(1-pyrenemethyl)iodoacetamide (PMIA
amide); 1-pyrenemethyl iodoacetate (PMIA ester); N-(1-
pyrenepropyl)iodoacetamide); 1-(2,3-epoxypropyl)-4-(5-(4-
methoxyphenyl)oxazol-2-yl)pyridinium trifluoromethanesulfonate
(PyMPO epoxide); erythrosin-5-iodoacetamide; fluorescein-5-
maleimide; 5-iodoacetamidofluorescein (5-IAF); 6-
iodoacetamidofluorescein (6-IAF); 1-(2-maleimidylethyl)-4-(5-
(4-methoxyphenyl)oxazol-2-yl)pyridinium methanesulfonate
(PyMPO maleimide); Oregon Green™ iodoacetamide "mixed
isomers"; tetramethylrhodamine-5-iodoacetamide (5-TMRIA)
"single isomer"; tetramethylrhodamine-5-maleimide "single
isomer"; tetramethylrhodamine-6-maleimide "single isomer";
Texas Red® C₅ bromoacetamide; and Texas Red® C₂ maleimide.

46. (Amended) A kit for detection of the concentration of a
hydrophobic Coenzyme A ester in a sample comprising

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- i) at least a first construct according to claim 27,
 - ii) a sample compartment for application of the sample.

55. (Amended) A kit for detection of the concentration of a hydrophobic Coenzyme A ester in a sample comprising

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- i) at least first and second constructs according to claim 27,
 - ii) a sample compartment for application of the sample.

57. (Amended) The kit according to claim 55, wherein each construct has a K_D with respect to at least one species or a group of species of hydrophobic coenzyme A esters, which is substantially lower than the K_D of the other construct(s) with respect to this species or group of species.

65. The method according to claim 60, wherein step iii) comprises diluting a sub-sample of the solvent comprising the free fatty acids in a reaction mixture and performing a method of determining the concentration of free unbound hydrophobic Coenzyme A ester in a sample comprising the steps of

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- i) providing a hydrophobic Coenzyme A binding construct exhibiting a first signal when unbound and exhibiting a measurably different second signal when bound to a hydrophobic Coenzyme A ester,
 - ii) contacting the sample with the labeled hydrophobic Coenzyme a binding construct,
 - iii) allowing at least one species of unbound free hydrophobic Coenzyme A ester to bind to the hydrophobic Coenzyme A binding construct forming a complex comprising a hydrophobic Coenzyme A ester and the hydrophobic Coenzyme A binding construct,
 - iv) detecting a signal from the complex,
 - v) correlating the signal to the concentration of at least one species of hydrophobic Coenzyme A ester in the sample.